

**WE CLAIM:**

1. A method for purifying a thermoplastic norbornene resin comprising:  
cleaning said norbornene resin to eliminate organic impurities, ionic  
impurities, metallic impurities, and particles by using cleaning liquid selected  
5 from 2-propanol and a mixed solvent of 2-propanol and water to form a purified  
resin.

2. The method for purifying a thermoplastic norbornene resin according  
to claim 1, wherein said mixed solvent has a mixing ratio of 2-propanol to water  
of from 1:1 to 5:1 by volume.

10 3. The method for purifying a thermoplastic norbornene resin according  
to claim 1, wherein said purified resin contains said organic impurities not more  
than 30 ppb, said ionic impurities not more than 5 ppb, and said metallic  
impurities not more than 5 ppb.

15 4. The method for purifying a thermoplastic norbornene resin according  
to claim 2, wherein said purified resin contains said organic impurities not more  
than 30 ppb, said ionic impurities not more than 5 ppb, and said metallic  
impurities not more than 5 ppb.

5. The method for purifying a thermoplastic norbornene resin according  
to claim 3, wherein said organic impurities comprise hydrocarbon impurities of

not more than 20 ppb, deterioration product of antioxidant of not more than 5 ppb,  
and deterioration product of oxidized resin component of not more than 5 ppb.

5 6. The method for purifying a thermoplastic norbornene resin according  
to claim 4, wherein said organic impurities comprise hydrocarbon impurities of  
not more than 20 ppb, deterioration product of antioxidant of not more than 5 ppb,  
and deterioration product of oxidized resin component of not more than 5 ppb.

7. A plastic substrate for a magnetic recording medium manufactured by  
injection-molding a thermoplastic norbornene resin purified by the method  
defined by claim 1.

10 8. A plastic substrate for a magnetic recording medium manufactured by  
injection-molding a thermoplastic norbornene resin purified by the method  
defined by claim 2.

15 9. A plastic substrate for a magnetic recording medium manufactured by  
injection-molding a thermoplastic norbornene resin purified by the method  
defined by claim 3.

10. A plastic substrate for a magnetic recording medium manufactured by  
injection-molding a thermoplastic norbornene resin purified by the method  
defined by claim 4.

11. A plastic substrate for a magnetic recording medium manufactured by injection-molding a thermoplastic norbornene resin purified by the method defined by claim 5.

5 12. A plastic substrate for a magnetic recording medium manufactured by injection-molding a thermoplastic norbornene resin purified by the method defined by claim 6.

13. The plastic substrate for a magnetic recording medium according to claim 7, wherein number of defect that is not smaller than 1  $\mu\text{m}$  in diameter existing on a surface of said plastic substrate is not more than 100 per surface.

10 14. A magnetic recording medium comprising:  
said plastic substrate defined by claim 7; and  
a magnetic layer, a protective layer, and a liquid lubricant layer sequentially formed on said plastic substrate.

15 15. A magnetic recording medium comprising:  
said plastic substrate defined by claim 8; and  
a magnetic layer, a protective layer, and a liquid lubricant layer sequentially formed on said plastic substrate.

16. A magnetic recording medium comprising:  
said plastic substrate defined by claim 9; and

a magnetic layer, a protective layer, and a liquid lubricant layer sequentially formed on said plastic substrate.

17. A magnetic recording medium comprising:

said plastic substrate defined by claim 10; and

5 a magnetic layer, a protective layer, and a liquid lubricant layer sequentially formed on said plastic substrate.

18. A magnetic recording medium comprising:

said plastic substrate defined by claim 11; and

10 a magnetic layer, a protective layer, and a liquid lubricant layer sequentially formed on said plastic substrate.

19. A magnetic recording medium comprising:

said plastic substrate defined by claim 12; and

a magnetic layer, a protective layer, and a liquid lubricant layer sequentially formed on said plastic substrate.

15 20. The magnetic recording medium according to claim 14, wherein said medium does not generate any blister having a diameter of not less than 1  $\mu\text{m}$  and a height of not less than 0.1  $\mu\text{m}$  when said medium is left in an environment of selected from 60°C at 80% RH, -40°C at 10% RH, and a combination of these conditions.

21. A method for manufacturing a magnetic recording medium comprising:

purifying a thermoplastic norbornene resin using a cleaning liquid that is selected from 2-propanol and a mixed solvent of 2-propanol and water;

5 forming a plastic substrate by injection-molding said purified resin; and  
sequentially depositing a magnetic layer, a protective layer, and a liquid lubricant layer on said plastic substrate.

22. The method for manufacturing a magnetic recording medium according to claim 21, wherein said mixed solvent of 2-propanol and water is a  
10 mixture with mixing ratio 2-propanol : water is from 1:1 to 5:1.